REMARKS

Further examination of the application, as amended, is respectfully requested. In the Office Action, the Examiner objected to the phrasing of the Abstract under MPEP §608.01(b). Next, the Examiner rejected claims 1, 2, and 4-22 under 35 U.S.C. §102(b) as being anticipated by *Beeman*. Furthermore, the Examiner rejected claims 1, 2, and 4-22 under 35 U.S.C. §102(b) as being anticipated by *Willis*. Finally, the Examiner objected to claim 3 as being based upon a rejected claim but indicated the claim would be allowable if rewritten in independent form.

Applicant respectfully traverses on the following grounds:

Abstract

Applicant has amended the Abstract in response to Examiner's objection under MPEP §608.01(b). By the amendment, Applicant makes no limitation, either express or implied, on the scope and breadth of the claims as originally filed or amended herein.

§ 102(b) Rejections

Claims 1, 2, and 4-9

Referring initially to claim 1, neither the *Beeman* nor the *Willis* patents teach all of the elements as claimed. Particularly, neither patent teaches "an eccentric, skewed threaded bore" provided by the bit shank. *Beeman* does not teach a *threaded* bore at all and *Willis* does not disclose a *skewed* bore.

Furthermore, the *Beeman* patent does not teach a *threaded* journal for engagement with the threaded bore and therefore can not teach a cutter body rotatably carried on such a journal. Instead, the *Beeman* reference teaches a bit shank having merely a threaded connection 14 to the remainder of the drillstring. The interface between bit body 12 and cutter body 30 of *Beeman* does not suggest a threaded journal, but instead discloses a system where the balls 62 of a roller

bearing retain cutter body 30 upon bit body 12. Finally, there is no rotatable relationship between the cutter body 30 and a threaded journal.

Next, neither the *Beeman* patent nor the *Willis* patent discloses, teaches, or suggests a drill bit whereby the tip of *each* cutter element of the cutter body is forward an intersection of the central axis and an axis of rotation of the cutter body such that the chordal distance from the tip of each cutter element to the axis of cutter body rotation is longer than the chordal distance from that same tip to the axis of bit body rotation. While *Beeman* and *Willis* disclose embodiments where *some* of the tips of the elements meet this criteria, they do not disclose, suggest, or teach any structure whereby *all* cutter elements meet the criteria. While the Examiner may suggest the non-compliant cutter elements of *Beeman* or *Willis* could merely be removed to be in accordance with the final paragraph of claim 1, Applicant respectfully asserts the resulting device would no longer be capable of functioning as a drill bit. The non-compliant elements lie upon the outer portion of the cutter head, therefore their removal would prevent the resulting structure from boring any deeper into the drilling medium. For example, a 12" diameter drill bit having cutters only able to cut a 6" diameter hole is not capable of functioning as a drill bit.

Therefore, neither *Beeman* nor *Willis* teaches each and every element of Applicant's claim 1 so a rejection under 35 U.S.C. §102(b) is improper. Furthermore, because claims 2-9 properly depend from independent claim 1, contain all of the elements thereof, and are therefore narrower in scope, any rejection under 35 U.S.C. §102(b) is also improper.

Claims 10-13

Referring now to amended claim 10, neither the *Beeman* patent nor the *Willis* patent teach, or suggest a single-cone cutter shell having a *hemispheric* body. Instead, the references disclose angled, cone-shaped and toroidal bodies for the single-cone cutter shell.

Next, neither *Beeman* nor *Willis* teach or suggest a plurality of cutter elements disposed upon an outer surface of a cutter body and arranged so that a tip of *each* cutter element lies forward a plane perpendicular to a rotational axis of the cutter body and passing through an intersection between the rotational axis and a central axis of the drillstring. Instead, the cited references disclose a plurality of cutter elements wherein only *some* of the cutter elements are forward the specified plane perpendicular to the rotational axis. Finally, for the reasons outlined above in reference to claim 1, the references do not teach a plurality of cutter elements wherein the tip of each is farther from the rotational axis of the cutter body than the central axis of the drill string.

Therefore, the cited references do not teach each and every element of Applicant's claim 10 so a rejection under 35 U.S.C. §102(b) is improper. Furthermore, as claims 11-13 properly depend from independent claim 10, contain all of the elements thereof, and are therefore narrower in scope, any rejection under 35 U.S.C. §102(b) is also improper.

Claims 14-18

Referring now to claim 14, the cited references do not disclose, teach, or suggest a single cone rotary drill bit wherein a plurality of cutter elements mounted upon a cutter body are configured such that a tip of *each* is forward a plane defined normal to a cutter axis at an intersection of the cutter axis and a bit axis. As noted above in reference to claims 1-13, the patents merely disclose cutter bodies where *some*, but not all of the cutter elements are forward

such a plane. As such the *Beeman* and *Willis* disclosures do not teach all of the elements as claimed and a rejection under 35 U.S.C. §102(b) is not proper. Furthermore, as claims 15-18 properly depend from, include each and every element of, and are narrower in scope than independent claim 14, any novelty rejection thereof is also not improper.

Claims 19-20

Referring now to claim 19, the cited references do not disclose, teach, or suggest a plurality of cutter elements disposed about a cutter body wherein *each* cutter element has a tip forward a plane defined normal to a rotational axis of the cutter body at an intersection between the rotational axis and a drillstring axis. As noted above in reference to claims 1-18, the *Beeman* and *Willis* patents merely disclose a cutter bodies where *some*, but not all of the cutter elements are forward such a plane. As such the *Beeman* patent does not teach all of the elements as claimed and a rejection under 35 U.S.C. §102(b) is not proper. Furthermore, as claim 20 properly depends from, includes each and every element of, and is narrower in scope than independent claim 19, any novelty rejection thereof in light of *Beeman* or *Willis* is also improper.

Claims 21-22

Referring finally to claims 21-22, the cited patents do not disclose, teach, or suggest a method to drill a formation including a single cone drill bit configured such that a cutter body thereof includes a plurality of cutter elements wherein each cutter element has a tip forward a plane defined about an axis of rotation of the cutter body at an intersection of the axis of rotation with an axis of rotation of the drillstring. As noted above in reference to claims 1-20, the *Beeman* and *Willis* patents merely disclose a cutter body where *some*, but not all of the cutter elements are forward such a plane. As such the cited references do not teach all of the elements as claimed and a rejection under 35 U.S.C. §102(b) is not proper.

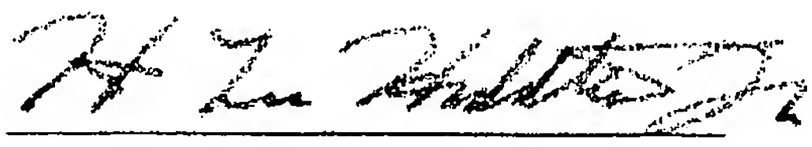
Summary of Claim Amendments

The syntax of claim 10 has been amended slightly for the purposes of clarity. Furthermore, a stipulation that the plane includes the point of intersection between the rotational axis and the central axis has been added to alleviate any potential indefiniteness issues. No amendments are made to overcome any particular reference and no new matter is added.

During the course of these remarks, Applicant has at times referred to particular limitations of the claims which are not shown in the applied prior art. This short-hand approach to discussing the claims should not be construed to mean that the other claimed limitations are not part of the claimed invention. Consequently, when interpreting the claims, each of the claims should be construed as a whole, and patentability determined in light of this required claim construction. Unless Applicant has specifically stated that an amendment was made to distinguish the prior art, it was the intent of the amendment to further clarify and better define the claimed invention.

If the Examiner has any questions or comments regarding this communication, he is invited to contact the undersigned directly to expedite the resolution of this application. Further examination of the application and reconsideration of the claims and specification as amended and the allowance thereof is respectfully requested.

Respectfully submitted,



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